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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/890,195	08/06/2001	Karl-Friedrich Diener	DIENER	9304

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EXAMINER

LE, DANG D

ART UNIT	PAPER NUMBER
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2834

DATE MAILED: 11/08/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/890,195

Applicant(s)

DIENER ET AL.

Examiner

Dang D Le

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-42 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 August 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the following features must be shown or the feature(s) canceled from the claim(s). No new matter should be entered:

- "The center of the permanent magnets of one part of the slip coupling being axially offset in relation to the center of the other part of the slip coupling, forming a cage" in claims 9 and 37.
- "The permanent magnet arrangement and the electrically conducting part of the first and second configurations of the slip coupling being disposed in coaxial relationship to the motor shaft" as shown in claim 34.
- "The electrically conducting part of the first and second configurations of the slip coupling being formed by salient pole punching for interaction with the permanent magnet arrangement to effect the speed limiting and governing device in dependence on the motor speed" as shown in claim 36.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

There is insufficient antecedent basis for the following limitations in the claims. Claim 1 recites the limitations "the hub" in line 16 "the motor shaft" in lines 4 and 8. Claims 7, 13, 19 and 20 recite the limitation "the parts" in line 2. Claim 9 recites the limitation "the center" in line 2.

Regarding claims 4 and 6, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 5, 7-11, 13, 14, 17, 19, 22, 24, 27, 29, 30, 33-35, 37-39, 41 and 42 are rejected under 35 U.S.C. 102(b) as being anticipated by Sekine et al.

Regarding claim 1, Sekine et al. show an electromotive drive, with at least one fan wheel (15) which can be driven by an electric motor (8),

- Wherein an electromagnetic slip coupling (17, 18) dependent on the motor speed is arranged between the motor shaft (7) and the freely rotatably mounted fan wheel (15),
- Wherein an electromagnetic speed limiting and governing device which limits the delivery of cooling air to the required quantity of cooling air is provided between the motor shaft (7) and the fan wheel (15),
- Wherein it is possible as from a predeterminable motor speed for the fan wheel speed to be reduced in relation to the motor speed in such a way that the driving-along effect of the slip coupling can be neutralized with increasing speed of the motor shaft until it is almost ineffective and increases again to the full driving-along effect as the motor speed drops,
- Wherein the fan wheel (15) is mounted freely rotatably on the motor casing (4) by means of a mounting (14) and
- Wherein the motor shaft (7) bears permanent magnets and the hub of the fan wheel has an electrically conductive part or the fan wheel is provided with permanent magnets (17) and the motor shaft is provided with an electrically conductive part (18).

Regarding claim 24, Sekine et al. also show an electromotive drive, comprising:

- An electric motor having a motor casing (4) and a motor shaft (7) received in the motor casing;
- At least one fan wheel (15) driven by the electric motor and having a hub,

- A bearing unit (14) for supporting the fan wheel to freely rotate with respect to the motor casing;
- An electromagnetic speed limiting and governing device (17, 18) for controlling a supply of cooling air, said electromagnetic speed limiting and governing device including an electromagnetic slip coupling, which is disposed between the motor shaft and the fan wheel and so configured that at a predetermined motor speed an engagement action of the slip coupling with the fan wheel decreases to almost zero as the motor speed further increases, and increases to full engagement action as the motor speed drops again, and wherein the slip coupling includes a configuration selected from the group consisting of a first configuration in which the motor shaft supports a permanent magnet arrangement and the hub of the fan wheel has an electrically conductive part, and a second configuration in which the fan wheel is provided with a permanent magnet arrangement (17) and the motor shaft is provided with an electrically conductive part (18).

Regarding claim 5, it is noted that Sekine et al. also show the permanent magnets and/or the sleeve being arranged in an annular or segmentally annular manner on the hub of the fan wheel or on the motor shaft.

Regarding claim 7, it is noted that Sekine et al. also show the parts of the electromagnetic slip coupling being arranged in coaxial or radial arrangement in relation to the motor shaft.

Regarding claim 8, it is noted that Sekine et al. also show the motor shaft bears permanent magnets and segments being cut out in the shaft of the fan wheel, or in that the fan wheel is provided with permanent magnets and the motor shaft has segmental cutouts over its circumference, in such a way that, in the interaction of the segmented fan wheel hub with the permanent magnets of the motor shaft, or in the interaction, the segmented motor shaft with the permanent magnets of the fan wheel, and dependent on the motor speed, the speed limiting and governing device is effective.

Regarding claims 9 and 37, it is noted that Sekine et al. also show the center of the permanent magnets of one part of the slip coupling being axially offset in relation to the center of the other part of the slip coupling, forming a cage.

Regarding claims 10 and 38, it is noted that Sekine et al. also show the mounting of the fan wheel in the motor casing or in the motor bearing plate comprising a single bearing.

Regarding claims 11 and 39, it is noted that Sekine et al. also show one part of the slip coupling comprising one or more bar magnets fitted in bores of the motor shaft or in bores of the fan wheel.

Regarding claims 13, 19 and 41, it is noted that Sekine et al. also show the parts of the electromagnetic slip coupling dimensioned such that the maximum breakdown torque or the highest driving-along effect between the motor shaft and the fan wheel is reached at a predetermined motor speed, which is sufficient to overcome the drop in pressure of the aerodynamic circuit.

Regarding claims 14 and 42, it is noted that Sekine et al. also show that it is intended for three-phase traction motors capable of being operated at high speeds.

Regarding claim 17, it is noted that Sekine et al. also show one part of the slip coupling comprising one or more bar magnets fitted in bores of the motor shaft or in bores of the fan wheel.

Regarding claim 22, it is noted that Sekine et al. also show that it is intended for three-phase traction motors capable of being operated at high speeds.

Regarding claim 27, it is noted that Sekine et al. also show the electrically conducting part of the first and second configurations including a sleeve of electrically conductive material.

Regarding claim 29, it is noted that Sekine et al. also show at least one of the permanent magnet arrangement and the electrically conducting part of the first and second configurations having an annular shape.

Regarding claim 30, it is noted that Sekine et al. also show at least one of the permanent magnet arrangement and the electrically conducting part of the first and second configurations having segments of annular shape.

Regarding claim 33, it is noted that Sekine et al. also show the fan wheel being made of plastic, and wherein the sleeve is received in the hub of the fan wheel.

Regarding claim 34, it is noted that Sekine et al. also show the permanent magnet arrangement and the electrically conducting part of the first and second configurations of the slip coupling being disposed in coaxial relationship to the motor shaft.

Regarding claim 35, it is noted that Sekine et al. also show the permanent magnet arrangement and the electrically conducting part of the first and second configurations of the slip coupling being disposed in radial relationship to the motor shaft.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2, 3, 12, 21, 23, 25, 26 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sekine et al. in view of Kuwahara.

Regarding claims 2 and 25, Sekine et al. show all of the limitations of the claimed invention except for the fan wheel being mounted in a motor bearing plate of the motor casing.

Kuwahara shows the wheel (2) being mounted in a motor bearing plate of the motor casing (6) for the purpose of supporting rotation of the wheel.

Since Sekine et al. and Kuwahara are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to mount the fan wheel in a motor bearing plate of the motor casing as taught by Kuwahara for the purpose discussed above.

Regarding claim 3, it is noted that Kuwahara also shows the mounting of the fan wheel (2) being seated with a bearing outer race in a bearing receptacle (portion below 11) of the motor casing (6) or motor bearing plate and an annular formation on the fan wheel hub being supported against the rotating bearing inner race of the fan wheel bearing.

Regarding claims 12 and 40, it is noted that Kuwahara also shows at least one fan wheel for encapsulated or enclosed-ventilated electric motors for rail vehicles and rail-bound vehicles for suction or pressure ventilation freely mounted and formed on at least one motor bearing plate.

Regarding claims 21 and 23, it is noted that Sekine et al. also show that it is intended for three-phase traction motors capable of being operated at high speeds.

Regarding claim 26, it is noted that Kuwahara also shows the motor casing (6) having a bearing receptacle (below 11), wherein the bearing unit is seated with an outer bearing race in one of the bearing receptacle and motor bearing plate, wherein the hub (2) has an annular flange supported against a rotating inner bearing race of the bearing unit.

8. Claims 4, 15, 18, 20, 28 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sekine et al. in view of Brinkmann et al.

Regarding claims 4 and 28, Sekine et al. show all of the limitations of the claimed invention except for the electrically conducting part of the fan wheel or of the motor shaft forming the electromagnetic slip coupling with the permanent magnets of the motor

shaft or of the fan wheel comprising a sleeve of electrically conductive material, such as a copper sleeve.

Brinkmann et al. show the electrically conducting part of the fan wheel or of the motor shaft forming the electromagnetic slip coupling with the permanent magnets of the motor shaft or of the fan wheel comprising a sleeve (9) of electrically conductive material, such as a copper sleeve for the purpose of stabilizing the rotor movement.

Since Sekine et al. and Brinkmann et al. are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to make the sleeve of copper as taught by Brinkmann et al. for the purpose discussed above.

Regarding claim 36, it is noted that Brinkmann et al. also show the electrically conducting part of the first and second configurations of the slip coupling being formed by salient pole punching for interaction with the permanent magnet arrangement to effect the speed limiting and governing device in dependence on the motor speed.

Regarding claim 15, it is noted that Sekine et al. also show the permanent magnets (17) and/or the sleeve being arranged in an annular or segmentally annular manner on the hub of the fan wheel or on the motor shaft.

Regarding claim 18, it is noted that Sekine et al. also show one part of the slip coupling comprising one or more bar magnets fitted in bores of the motor shaft or in bores of the fan wheel.

Regarding claim 20, it is noted that Sekine et al. also show the parts of the electromagnetic slip coupling dimensioned such that the maximum breakdown torque or the highest driving-along effect between the motor shaft and the fan wheel is reached at a predetermined motor speed, which is sufficient to overcome the drop in pressure of the aerodynamic circuit.

9. Claims 6, 16, 31, 32 and ??? are rejected under 35 U.S.C. 103(a) as being unpatentable over Sekine et al. in view of Kumatani.

Regarding claims 6 and 16, Sekine et al. show all of the limitations of the claimed invention except for the fan wheel having a hub of nonmagnetic material, such as aluminum, or in that the fan wheel consists of plastic and a sleeve of electrically conductive material is fitted into the fan wheel hub.

Kumatani shows the fan wheel (28) having a hub of nonmagnetic material, such as aluminum, or in that the fan wheel consists of plastic and a sleeve of electrically conductive material is fitted into the fan wheel hub for the purpose of reducing heat.

Since Sekine et al. and Kumatani are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to make the fan wheel of aluminum as taught by Kumatani for the purpose discussed above.

Regarding claim 31, it is noted that Kumatani also shows the hub of the fan wheel being made of nonmagnetic material.

Regarding claim 32, it is noted that Kumatani also shows the hub being made of aluminum.

Information on How to Contact USPTO

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dang D Le whose telephone number is (703) 305-0156. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

DDL
November 6, 2002

DL

Dang D Le